Examining rates and risk factors for post-order adoption disruption in England and Wales through survival analyses

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1. Abstract

Purpose: This paper report findings from two research studies that set out to calculate the rate and predictors of post-order adoption disruption in England and Wales.

Methods: All available national level administrative data on adopted children in England and Wales were analysed, supplemented by national surveys adoption managers. Complete national datasets were available for 12 years in England and for 11 years in Wales.

Results: Of the 36,749 and 2,317 adoptions considered, 565 in England and 35 in Wales had disrupted over the follow up period. Kaplan Meier analyses indicate that cumulative post-order adoption disruption rates were 3.2% and 2.6% respectively for England and Wales. Cox regression models indicate that being older than four years adoptive placement, adoptive parents taking longer than a year to legalise the adoption, being a teenager and previous multiple placements in care were risk factors for post-order adoption disruption.

Conclusion: The post order adoption disruption rate is low. Implications for policy and practice are discussed.

2. Introduction

At any given time, some 70,000 children in England and around 6,000 children in Wales are looked after by local authorities (Department for Education, 2016; Welsh Government, 2016a). The reasons for entry into care are varied, but more than half the children (54% in England and 64% in Wales) are taken into state care due to abuse or neglect (Department for Education, 2016; Welsh Government, 2016b). Other reasons for entering care include family dysfunction, acute stress in families and absent parenting, with only a small number entering care due to disability and illness of children or parents.

Children who are returned to their families after a period of being looked after constitute the largest proportion of exits from care in England and Wales. The most recent statistics indicate that 34% of the 31,710 children in England and 37% of the 2,020 children in Wales who ceased to be looked after were reunified with their families (Department for Education, 2016; Welsh Government, 2016c). However, previous research (Farmer *et al.*, 2011; Wade *et al.*, 2011; Farmer and Lutman, 2012; NSPCC, 2012) show that a large proportion of reunifications are unsuccessful and that around 40% of children re-enter care. Looked after children who are unable to return home safely require another permanent arrangement to be made within the state care system, and these children may be placed with relatives, long-term foster carers or adoptive parents. These placements can be legally secured through special guardianship orders, child arrangement orders (previously referred to as residence orders) or adoption orders.

Around 6% of looked after children in England and Wales are adopted each year. Unlike in the US, where the majority (52%) of children are adopted by their foster carers (U.S. Department of Health and Human Services, 2016), the majority (85%) of children in England and Wales are adopted by 'stranger' adopters (Department for Education, 2016; Welsh Government, 2016c). Around 70% of adoptees in England and Wales are taken into care due to adverse experiences such as abuse and neglect (Department for Education, 2016; Welsh Government, 2016c). Although experiences of maltreatment such as abuse or neglect can pose a risk to children's wellbeing and emotional and behavioural outcomes (Nanni *et al.*, 2012; Smith, 2013), research indicate that previously maltreated children are able to make significant developmental gains in growth, attachment and cognitive capacities once adopted (Triseliotis, 2002; Van IJzendoorn and Juffer, 2006; Lloyd and Barth, 2011; Fisher, 2015; Sonuga-Barke *et al.*, 2017). However, for some children, the effects of maltreatment can be lifelong (Shonkoff *et al.*, 2012; Hughes *et al.*, 2016) and despite the documented gains, research show that adoption per se is not able to attenuate the impact of all previous adverse experiences (Smith, 2013). For example, compared with children growing up in traditional family settings, adoptees report higher rates of psychopathology and lower self-esteem (Burns *et al.*, 2004;

Gagnon-Oosterwaal *et al.*, 2012; Fisher, 2015; Sánchez-Sandoval, 2015), which may increase their vulnerability to adoption disruption.

1.1. Adoption disruption in England and Wales

Little is known about adoption disruption in England and Wales. Legally, an adoption cannot be dissolved or revoked in England and Wales except under very exceptional circumstances (see for example, PK v Mr & Mrs K [2015] EWHC 2316 (Fam)), and can only be reversed through making of another adoption order. A mapping review (Grant and Booth, 2009) revealed a few studies in the UK which had estimated the post-order adoption disruption rate to be between 3-7% using survey methodologies (Lowe *et al.*, 1999; Selwyn *et al.*, 2006; Randall, 2013) (see Table 1). However, no national-level studies have been conducted in the UK to calculate the rate of post-order adoption disruption. This is mainly because: local authorities terminate collection of new data on adopted children as children cease to be looked after the adoption order and; in the instances where children come back into care after an adoption order, they are given new identification numbers, which are not linked to their previous identities and care histories. Gathering accurate data is further made difficult because adopted children are usually given a new surname, a new National Health Service (NHS) number and a new education pupil number (UPN), therefore severing the links between pre-adoption care files and post order disruption records. There are also no mechanisms to track children as they move with their adoptive families around the country or emigrate. If children re-enter care in a different local authority area, social workers are dependent on adoptive parents informing them that the child is adopted.

From 1997, the English government began a reform programme to increase the number of children adopted from care and to speed up decision-making by introducing timescales and national standards. These reforms were critiqued by many academics (Kirton, 2013) concerned at the politicisation of adoption practice and the failure to consider the impact of austerity policies and reduced services for the poorest families (Featherstone and Bywaters, 2014). Concerns were also raised that these reforms would lead to higher adoption disruption rates. Although similar reforms in the US promoting the use of adoption and speeding up the process did not produce higher disruption rates (Smith *et al.*, 2006; Rolock and White, 2016), there were no national figures on post-order adoption disruptions available for England and Wales. In this article, we report on findings from studies that set out to provide the evidence on post-order adoption rates for England and Wales and to explore the risk factors that contributed to adoption disruption.

- **Table 1. UK studies of adoption disruption rates (1990-2015)***

Author	Country	Sample Characteristics	Follow up period	Pre/post Order disruption rate	Post-Order disruption rate
(Fratter *et al.*, 1991)	England	1,165 children with special needs. Adoptions made by 24 Voluntary Adoption Agencies between 1980-1984.	18 mths-6.6 years	21%ᵗ	
(Holloway, 1997)	England	129 children with a permanence plan in one local authority between 1986-1990	3-5 years	2%ᵗ	
(Quinton *et al.*, 1998)	England	61 families with 130 late placed children (placed when 5-9 years)	1 year	5%ᵗ	
(Lowe *et al.*, 1999)	UK	72% of adoption agencies in 1994. 138 disruptions reported			6%
(Thoburn *et al.*, 2000)	UK	210 Ethnic minority children placed for adoption by a VAA	10-15 years	24%ᵗ	
(Rushton *et al.*, 2001)	England	72 families with 133 children	1 year	10%	
(Selwyn *et al.*, 2006)	England	97 older children (4-12years) placed for adoption between 1991-1996 from one Local Authority	5-10 years	11%	6%
(Rushton and Dance, 2006)	England	99 children 5-11 years old at placement	On average 6 years	23%ᵗ	
(Biehal *et al.*, 2010)	England	97 children	7.6 years since entry to care	13%ᵗ	
(Dance *et al.*, 2010)	England	131 children	6 months	5%	
(Randall, 2013)	England	328 children placed by one Voluntary Adoption Agency between 2001-2011	2-12 years	3.8%	3.7%
(Beckett *et al.*, 2013)	England	22 children adopted by non- relatives	3-5 years	14%ᵗ	

* Adapted from authors' own publication (Selwyn *et al.*, 2014)

ᵗ No differentiation made between pre/post order adoption disruptions

3. Methodology

A retrospective longitudinal research design was used to consider the rates of and reasons for post-order adoption disruptions in England and Wales. The studies were commissioned by the Department for Education in England (Selwyn *et al.*, 2014) and by the Welsh Government (Wijedasa and Selwyn, 2014) and used similar methodologies. Ethical clearances for the studies were obtained from the research ethics committee at School for Policy Studies, University of Bristol. Adoptees were defined as previously looked after children adopted from care. Inter-country adoptions and step-parent adoptions were excluded. Adoption disruption was defined as when a previously looked after child, with an adoption order, ceased to live with the adoptive parents before the age of 18 years.

2.1. Sample

All children who were adopted in England between 1st April 2000 and 31st March 2011 and between 1st April 2002 and 1st April 2012 in Wales were included in the analyses. Earlier data were not used due to data being unavailable on the total population of children in care.

2.2 Data

2.2.1 National level administrative data on adopted and looked after children

Once a year, local authorities in England are required to submit data on all children looked after and those adopted to the Department for Education (DfE) and in Wales to the Welsh Government. The information collected includes care histories, information on care leavers and children adopted from care. From the national data, two longitudinal databases were provided by the Department for Education and the Welsh Government. In each database, every child has a unique identifying number, which enables record linkage.

I. **Longitudinal database on *all* children adopted in England and Wales:** These databases contained the details of all the children in care who had been the subject of an adoption order between April 2000 and March 2011 in England (n= 35,355) and between April 2002 and March 2012 in Wales (n=2,352). Each row in the database contained data on an individual child and included variables such as the name of the local authority, child's gender; whether adopted by foster carers, date of the adoption decision, date of match with adopters, date of placement with adopters; and date of adoption order.

II. **The longitudinal database on *all* children looked after in England and Wales:** These databases contained the details of all children who were in care between April 2003 and March

2011 in England and between April 2002 and March 2012 in Wales. Asylum seeking children and children on a series of agreed short breaks in the care system were excluded from our analyses. The database enabled the longitudinal tracking of the care histories of adopted children and had variables such as date of entry to care; reason for entry to care; type of legal status; type of placement; dates of placement changes and; dates of legal status changes.

It was not possible to identify sibling groups within the administrative datasets.

Using these datasets, it was possible to identify and establish some of the characteristics of all the adopted children. It was also possible to explore the children's care careers from the time of entry to care by linking the two files. Although no data on the adoptees were available on the administrative datasets after the legal order, it is likely that all families who have experienced an adoption disruption contacted the local authority that placed the children. Therefore, national surveys of adoption team managers and surveys of adoptive parents were undertaken to identify children who had experienced an adoption disruption.

2.2.2. National surveys of adoption managers in England and Wales

National postal/telephone surveys of all local authority adoption managers were conducted in England (n=148) and with managers in Wales (n=22) achieving a response rate of 86% in England and 92% in Wales. Every manager was asked to provide data on previously looked after children who had been adopted within the study time frames and who had subsequently experienced an adoption disruption. The following information was requested: the unique local authority ID number of the child before the adoption order, date of birth, gender, date of placement, date of adoption order and date of adoption disruption. Data from the surveys were then merged with the administrative data on adopted children. These surveys provided information on 505 children in England and 31 children in Wales who had experienced an adoption disruption.

2.2.3. Supplementary surveys

Some of the adoption managers we spoke to were concerned that the rate of adoption disruption might be underestimated, as some children were placed outside the boundary of their local authority and there was no requirement for the receiving adoption teams to notify the placing local authority of adoption disruptions. These concerns were addressed by undertaking (1) a survey of all voluntary adoption agencies (VAA) in England (n=22) and Wales (n=2), with a 55% and 100% response rates respectively, (2) a survey of 14 local authority adoption teams who did not place many children for adoption, but had many children placed within their local authorities by other adoption teams (3) a

survey of adoptive parents (n=620) who had legally adopted 880 children from 13 local authorities in England between April 1st 2002 and March 31st 2004 and (4) the survey was also published on AdoptionUK, which is an online forum for adoptive parents, which resulted in 180 families who had legally adopted 310 children responding to the survey.

The survey of voluntary agencies and the 14 local authorities provided details of an additional 20 children in England who had not been identified through the national adoption managers' survey. The survey of adoptive parents in 13 local authorities and the responses from the AdoptionUK forum members did not lead to any new information on disrupted adoptions.

2.2.4. Additional data on disruptions from the administrative data files

Although local authorities are required legally to provide adopted children with a new identification number (ID) if they re-enter care, an exploration of the new merged datasets revealed that this procedure had not been correctly followed as some adopted children's ID had remained the same. Forty children in England and four in Wales were identified in this manner as being adoption disruptions.

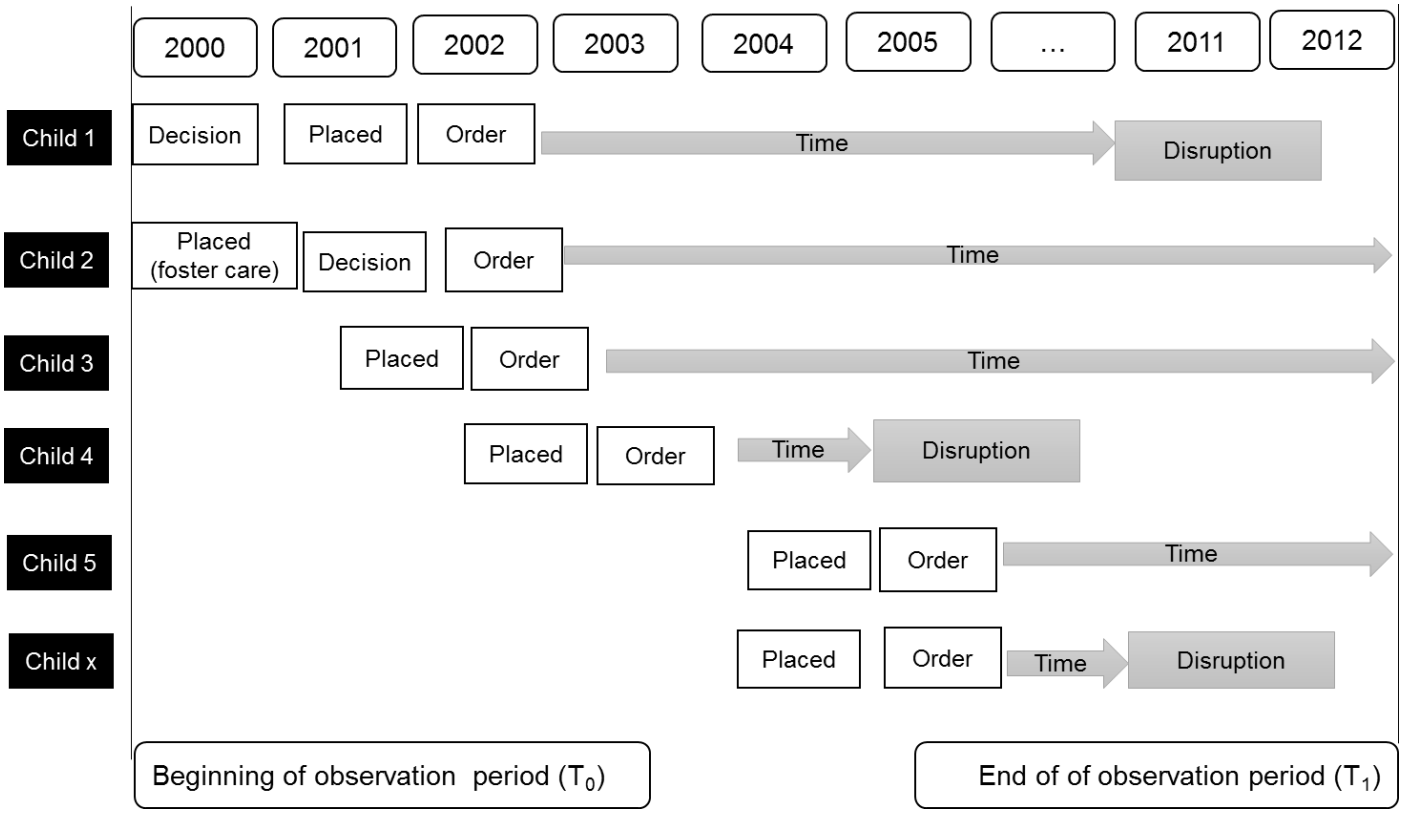
Amalgamation of data from all the above sources indicated that there had been in total 565 adoption disruptions in England between 2000-2011 and 35 adoption disruptions in Wales between 2002-2012.

2.3. Data analyses

The aims of the statistical analyses were threefold, (1) to establish *whether* adoptions disrupted after the order (the rate of disruption), (2) to establish *when* children were most at risk of disruption (timing of disruption), and (3) to establish *who* was at a greater risk of experiencing an adoption disruption (predictors of disruption).

As can be seen in Figure 1, the children were at different stages of their adoption journeys: (1) children who had experienced a disruption (2) children who had reached the age of 18 before the end of the study and had not experienced a disruption and (3) those who were not yet 18 and had not experienced a disruption. Data from the third group of children were treated as incomplete or *censored,* as although they had not experienced a disruption by the end of the follow-up period, it is possible that some may have gone on to experience a disruption at some later point. Therefore, data on whether the disruption had occurred or not, was not available for all children.

Figure 1 The timelines of adopted children at the beginning and end of data collection



Adapted from (Yamaguchi, 1991)

It was not possible to meet the aims of the analyses with proportions, risk/odds ratios or logistic regressions as these statistical methods assume complete data for all children (whether they had a disruption or not) and ignores time to event (*when* a disruption was most likely to occur). Ordinary multiple regression, on the other hand, would have taken the time of disruption into account as an outcome variable, but not whether the event occurred or not.

2.3.1. Survival analyses

When compared with the methods mentioned in the preceding section, statistical methods known as survival or event-history analyses (Singer and Willet, 2003) take into consideration both the event (*whether* the event occurred) and the time to event (*when* the event occurred). Survival analyses has the benefits of also using all data, including that from the *censored* observations. Therefore, in this study, survival analyses methods known as Kaplan-Meir and Cox Proportional Hazards were used to calculate the post-order adoption disruption rate, the times of higher risk and to establish the predictors of adoption disruption.

Kaplan-Meier analyses were conducted to estimate the overall post-order adoption disruption rates in each country over the follow-up periods and to estimate the risk of adoption disruption over time. Although a Kaplan-Meier analyses allows exploration of variation in disruption rates for different levels of a categorical variable such as gender, they cannot adjust for several predictor variables simultaneously. Therefore survival analyses methods known as Cox Proportional Hazards models, were utilized to investigate the risk factors for adoption disruption (Yamaguchi, 1991; Singer and Willet, 2003; Machin *et al.*, 2006).

Univariate analyses were conducted, with a Bonferroni correction (p= 0.05/15= .003) for multiple comparisons, to explore differences between the intact and disrupted groups. Then, all variables to be included in the model were tested to establish whether the proportionality assumption was met. Variables, which showed a skewed relationship with disruption were recoded as categorical variables before entering in the final Cox regression models (age since adoption order/ age at adoptive placement/ and time between adoptive placement and adoption order as seen in Table 6 and Table 7).

Most often, variables included in regression models are fixed in value. For example, age at placement would remain 'fixed' irrespective of the follow-up period. Cox regression models on the other hand, allow inclusion of 'time varying' covariates as well as 'fixed' covariates. In this analysis, we wanted to explore whether children's age per se, such as being a teenager, had any influence on adoption disruptions. Age 'now' was included as a 'time varying' covariate in the Cox regression models.

4. Results

All adoptions from the care system in England between 1st April 2000 and 31st March 2011 and in Wales between 1st April 2002 and 31st March 2012 were considered in the analyses. Start of the follow-up period was defined as the date of the adoption order when a child ceased to be looked after. The end date of the follow-up period was either the date of disruption or August 2011 for the England adoptees and August 2012 for the Welsh adoptees. By the end of the follow-up period, 565 out of 37,335 adoptions in England and 35 out of 2,352 adoptions in Wales had disrupted.

The average age at disruption was 13 years in England (M= 12.7, SD=3.2, CI=10.3-12.0) and 12 years in Wales (M= 11.6, SD=3.9, CI=12.4-13.0). The time to disruption from the date of the adoption order was on average 5 years in England (M= 5.4, SD=2.9, CI=5.2-5.7) and Wales (M= 4.6, SD=2.4, CI=3.8-5.4). Univariate analyses were conducted to explore the variables in the datasets and the derived variables to test for significant statistical differences between the children who were in intact adoptive placements at the end of the follow-up period and those children who had experienced a disruption.

3.1. Differences between children in intact adoptive placements and children who had experienced post-order adoption disruptions in England.

As can be seen in Table 2, compared with children who were in intact adoptive placements, children in England who had experienced an adoption disruption were significantly more likely to be older at every stage of the adoption process, including at entry to care, at the time of the adoption decision, match with adopters, adoptive placement and at the time of the adoption order. Children who experienced disrupted adoptions also had significantly longer waiting times between each of the adoption milestones and were more likely to take longer to go through the adoption process. On average, time from entry to care to the adoption order was 2.9 years for children who were in intact placements, whilst the children who were in the disrupted group waited 4.2 years in the care system from the time of entry until the adoption order.

Although the univariate analyses found that foster care adoptions were not a protective factor and that children who were adopted by their foster carers were more likely to experience an adoption disruption, the strength of this association reduced to non-significance when considered alongside other variables in a Cox regression model (See Table 6).

There were no statistically significant differences between the disrupted and intact groups in terms of gender, ethnicity and the reason for entry to care.

Table 2 Characteristics of the children adopted from care in England

	Children in intact adoptions (N=36,749) [+]	**Children who experienced an adoption disruption (N=565)**	**Difference between the intact and disrupted groups* and effect size**
	M (SE) (Years)	M (SE) (Years)	
Age at entry to care	1.2 (.01)	3.0 (.09)	*t* (576.4) = -21.02, *p* <.001, r = .66
Age at adoption decision	2.4 (.13)	4.9 (.10)	*t* (37312) = -24.46, *p* <.001, r = .13
Age at match with adopters	2.5 (.01)	5.3 (.11)	*t* (37312) = -24.46, *p* <.001, r = .13
Age at adoptive placement	3.1 (.01)	5.9 (.11)	*t* (37221) = -24.77, *p* <.001, r = .13
Age at adoption order	4.1 (.02)	7.3 (.12)	*t* (37312) = -26.22, *p* <.001, r = .13

Time from entry to care to adoption decision	1.3 (.01)	1.8 (.06)	*t* (577.5) = -10.88, *p* <.001, r = .41
Time from adoption decision to match with adopters	0.6 (.00)	0.8 (.04)	*t* (576.0) = -5.98, *p* <.001, r = .24
Time from match with adopters to adoptive placement	0.1 (.00)	0.2 (.02)	*t* (567.5) = -3.15, *p* <.001, r = .13
Time from adoptive placement to adoption order	0.9 (.00)	1.4 (.05)	*t* (570.4) = -9.63, *p* <.001, r = .37
Total time from entry to care to adoption order	2.9 (.01)	4.3 (.08)	*t* (579.3) = -17.3, *p* <.001, r = .58
	%∞	**%**∞	
Gender			
Male	51	46	NS†
Female	49	54	
Ethnicity			
White	85	87	NS†
Mixed	10	9	
Black	3	3	
Asian	2	-	
Other ethnicity	1	1	
Main reason for entry to care			
Abuse or neglect	72	73	NS†
Family dysfunction	10	11	
Family in acute stress	7	10	
Absent parenting	5	3	
Parental illness or disability	5	2	
Child's disability	0.6	0.3	
Socially unacceptable behaviour	0.3	-	
Low income	0.2	-	
Child adopted by foster carer			
Yes	15	20	χ^2 (1)=13.22, *p*<.001, OR= 1.2
No	85	80	

ˈ *Data missing for 21 of the 37,770 intact adoptions.*

**p* value adjusted with Bonferroni correction at p<.003 for multiple comparisons.

∞ The percentages might not add up to 100% due to rounding

† Chi-Square tests not statistically significant at *p*< .003 level.

Note. Although pertinent, the number of moves a child had had in the care system could not be explored in depth, as this data were available for only 50% of children in the disrupted group and 72% in the intact group. Adopter characteristics such as their gender and marital status could also not be explored, as the data were unavailable for many children due to the data being collected only from 2006.

3.2. Differences between children in intact adoptive placements and children who had experienced post-order adoption disruptions in Wales

As seen with the adopted in England, when compared with those in intact adoptive placements, the children who experienced a disruption were significantly more likely to be older at entry to care and at every point through the adoption process (See Table 3). The total waiting time between entry to care and adoption order was 2.7 years for the intact group and 3.8 years for the disrupted group, similar to the results from the England. There were no statistically significant results between the intact and disrupted groups in terms of the children's gender, ethnicity, reason for entry to care or whether they were adopted by their previous foster carers.

Table 3 Characteristics of the children adopted from care in Wales

	Children in intact adoptions (N=2,317)	**Children who experienced an adoption disruption (N=35)**	**Difference between the intact and disrupted groups* and effect size**
	M (SE) (Years)	**M (SE) (Years)**	
Age at entry to care	1.4 (.04)	3.3 (.42)	*t* (34.6)= -4.56, *p* <.001, r = .61
Age at adoption decision	2.5 (.06)	4.6 (.44)	*t* (2330)= -4.34, *p* <.001, r = .09
Age at match with adopters	3.0 (.05)	5.3 (.40)	*t* (2332)= -5.40, *p* <.001, r = .11
Age at adoptive placement	3.1 (.05)	5.4 (.48)	*t* (2349)= -5.34, *p* <.001, r = .11
Age at adoption order	4.1 (.06)	7.0 (.51)	*t* (2350)= -6.42, *p* <.001, r = .13
Time from entry to care to adoption decision	1.1 (.04)	1.5 (.19)	NS
Time from adoption decision to match with adopters	0.5 (.03)	0.6 (.12)	NS
Time from match with adopters to adoptive placement	0.1 (.01)	0.2 (.14)	NS
Time from adoptive placement to adoption order	1.0 (.01)	1.5 (.15)	*t* (33.7)= -3.73, *p* <.001, r = .54
Total time from entry to care to adoption order	2.9 (.03)	4.2 (.30)	*t* (2350)= -4.68, *p* <.001, r = .10
Number of moves in care before adoptive placement	1.9 (.02)	2.4 (.13)	*t* (2170)= -3.70, *p* <.001, r = .08

	%∞	%∞	
Gender			
Male	51	46	NS†
Female	49	54	
Ethnicity			
White	85	87	NS†
Mixed	10	8	
Other ethnicity	3	3	
Black	2	-	
Asian	1	1	
Main reason for entry to care			
Abuse or neglect	74	86	NS†
Family in acute stress	8	6	
Family dysfunction	7	-	
Absent parenting	5	-	
Parental illness or disability	5	9	
Child's disability	0.3	-	
Socially unacceptable behaviour	0.1	-	
Other reason	0.1	-	
Child adopted by foster carer			
Yes	17	23	NS†
No	83	77	

**p* value adjusted with Bonferroni correction at p<.003 for multiple comparisons.
∞ The percentages might not add up to 100% due to rounding.
† Chi-Square tests not statistically significant at *p*< .003 level.
Note. Adopter characteristics such as their gender and marital status could not be explored as the data were not available for many children due this data being collected only since 2006.

3.3. Post-order adoption disruption rates in England and Wales

The rates of post-order adoption disruptions were calculated with Kaplan-Meier survival curves. Follow-up data were available for a maximum of 12.3 years for England and 11.3 years in Wales. As can be seen in Figure 2 and Figure 3, the cumulative proportion of adoption disruptions increased over the years since the making of an adoption order.

The post-order adoption disruption rates were similar across England and Wales. The cumulative adoption disruption rate in England was 3.2% over a period of 12.3 years, whilst in Wales over a period of 11.3 years, post-order disruption rate was 2.6%. The estimated risk disruption for each year after the adoption order are given in Table 4 and Table 5.

Figure 2. Kaplan-Meier plot of the predicted proportion of adoption disruptions for all children adopted in England between 2000 and 2011 (1-Survival curve plotted), (N= 36,749)

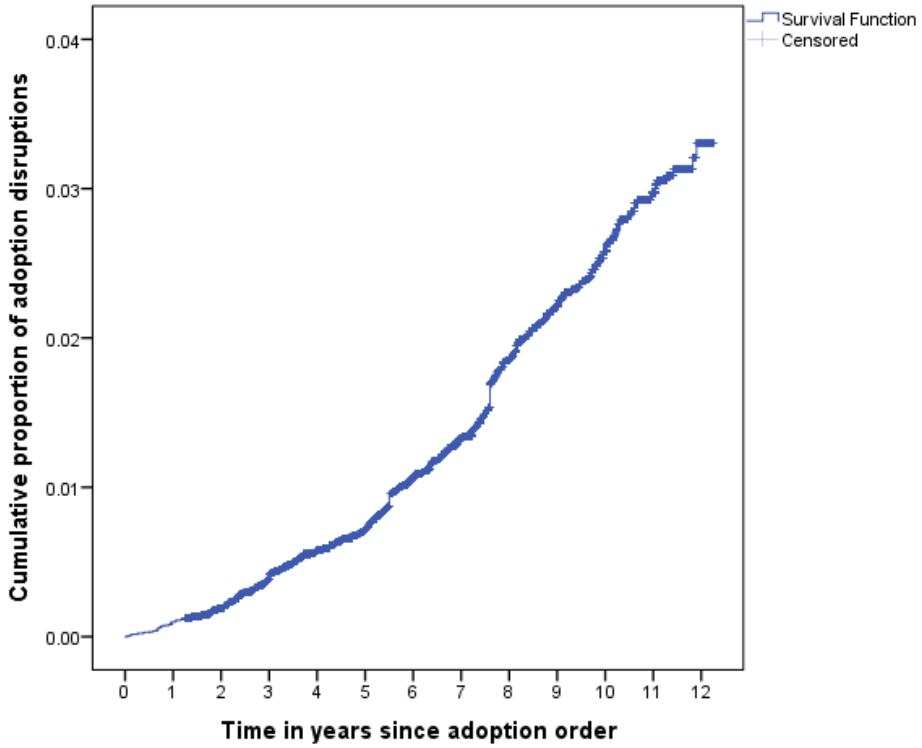


Figure 3. Kaplan-Meier plot of the predicted proportion of adoption disruptions for all children adopted in Wales between 2002 and 2012 (1-Survival curve plotted), (N=2,352)

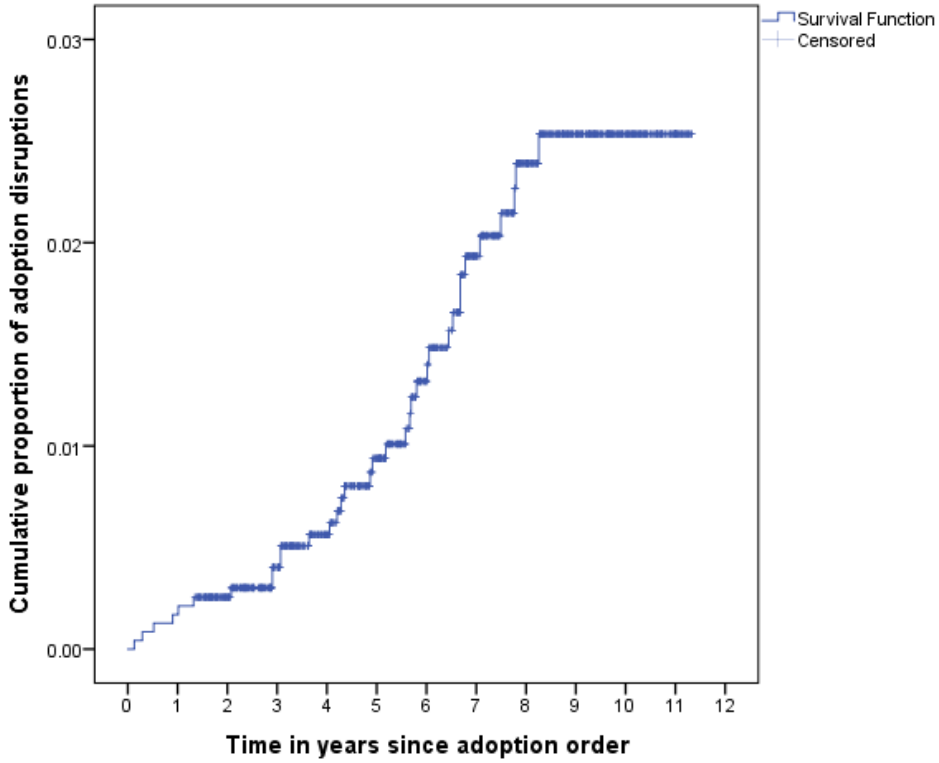


Table 4. Estimated proportions of post-order adoption disruptions in England

Time in years since adoption order	Kaplan-Meier estimates of cumulative proportion of adoption disruptions over time (%)	Estimated proportion of adoption disruptions within the year (%)	Risk of disruption per 1,000 children within the year
0 - 1	0.1	0.1	1 in 1000
1 – 2	0.2	0.1	1 in 1000
2 – 3	0.4	0.2	2 in 1000
3 – 4	0.6	0.2	2 in 1000
4 – 5	0.7	0.1	1 in 1000
5 – 6	1.1	0.4	4 in 1000
6 – 7	1.3	0.3	3 in 1000
7 – 8	1.9	0.5	5 in 1000
8 – 9	2.3	0.4	4 in 1000
10 – 11	2.5	0.3	3 in 1000
11 – 12	2.9	0.4	4 in 1000
12 – 12.3	3.2	0.3	3 in 1000

Table 5. Estimated proportions of post-order adoption disruptions in Wales*

Time in years since adoption order*	Kaplan-Meier estimates of cumulative proportion of adoption disruptions over time (%)	Estimated proportion of adoption disruptions within the year (%)	Risk of disruption per 1,000 children within the year
0 - 1	0.2	0.2	2 in 1000
1 – 2	0.3	0.1	1 in 1000
2 – 3	0.4	0.1	1 in 1000
3 – 4	0.7	0.3	3 in 1000
4 – 5	1.0	0.3	3 in 1000
5 – 6	1.4	0.4	4 in 1000
6 – 7	2.1	0.7	7 in 1000
7 – 8	2.6	0.5	5 in 1000

*Estimates are not provided for the period between 8 and 11.3 years as the Kaplan-Meier estimates plateaued at 2.6%

3.4. Risk factors for adoption disruption in England and Wales

Before conducting Cox Proportional Hazard analyses with the statistically significant variables in the univariate analyses (as seen in Table 2 and Table 3), checks for multicollinearity between the variables indicated that all variables pertaining to age and most 'time' variables were highly correlated, therefore only some of the 'age' and 'time' variables were included in the models. Age was included as a time varying covariate, which considered how children grew older over time. Although we could include the number of moves in the care system in the analyses of the Welsh data, the same variable was not included in the England data analyses due to the data not being available for most of the children. The

variables included and the resulting parameters of the Cox regression model for predicting adoption disruption are given in Table 6 and Table 7.

3.4.1. Risk factors for adoption disruption in England

As can be seen in table 6, controlling for all other variables, children's age since order, age at adoptive placement and time between adoptive placement and order were all significant predictors of post order adoption disruption in England.

Table 6. Hazard ratios for post-order adoption disruption for children adopted in England between 2000-2011[#]

	B	SE	Wald	Sig.	Hazard Ratio**	95% CI for Hazard Ratio	
						Lower	Upper
Age since order[†]			**147.42**	**.000**			
0-4 years*	0	-		-	1	-	-
4-11 years	.80	.49		.100	2.22	.86	5.74
11-16 years	2.26	.51		.000	9.61	3.53	26.17
16 + years	1.54	.55		.005	4.68	1.60	13.69
Age at adoptive placement[†]			**79.06**	**.000**			
0-1 years *	0	-		-	1	-	-
1-2 years	1.08	.48		.026	2.94	1.14	7.55
2-4 years	1.82	.46		.000	6.16	2.49	15.23
4+ years	2.60	.47		.000	13.45	5.38	13.64
Time between adoptive placement and order[†]			**8.91**	**.012**			
0-1 year*	0	-		-	1	-	-
1-2 years	.02	.10		.842	1.02	.84	1.23
2+ years	.35	.12		.005	1.42	1.11	1.81
Total time between entry to care and adoptive placement			**1.99**	**.574**			
Whether the child was adopted by the foster carer			**.728**	**.394**			

[#] Other variables, which were significant in the univariate analyses were not included due to multicollinearity.
* Reference category.
** Hazard ratio represents the incremental increase in risk of adoption disruption in one category, relative to the reference category.
[†] The categories do not overlap.

As can be seen by the Wald statistics, the most influential contributor to the model was the child's age since the order. Teenage years (11-18 years) posed the highest period of risk, with the risk of disruption being 10 times more than for a child who was under 4 years of age. Children who were older than 16 years were also nearly 5 times more likely to experience a disruption compared to children who were younger than 4 years of age.

The second most influential contributor to the model was the child's age at placement for adoption. Compared with those who were placed for adoption as infants (0-1 years of age), children who were older than 4 years at placement were 13 times more likely to experience an adoption disruption, whilst children who were placed between 2-4years of age were 6 times more likely to experience a disruption after the order.

The length of time between the adoptive placement and the legal order was also a significant predictor. Children who had to wait more than two years for the legal order were one and a half times more likely to experience a disruption compared with children whose adoptive placement was converted to a legal order within a year of placement with adoptive parents.

Controlling for all other variables, the influences of whether the child was adopted by a former foster carer and the total time taken in the care system from entry to care to the time of the adoptive placement were not statistically significant.

3.4.2. Risk factors for adoption disruption in Wales

The risk factors for adoption disruption in Wales are given in Table 7. Age at adoptive placement, period between the adoptive placement and legal order and the number of moves a child has had in the care system before being placed for adoption were all significant predictors of post-order adoption disruptions in Wales. As seen by the Wald statistics, all three variables contributed to the model in a similar manner.

Table 7. Hazard ratios for post-order adoption disruption for children adopted in Wales between 2002-2012[#]

	B	SE	Wald	Sig.	Hazard Ratio**	95% CI for Hazard Ratio	
						Lower	Upper
Age at adoptive placement[†]			**4.30**	**.038**			
0-4 years*	0	-		-	1	-	-
4+ years	1.19	.57		.04	3.28	1.07	10.07
Time from adoptive placement to order[†]			**3.87**	**.049**			
0-1 year *	0	-		-	1	-	-
1+ years	.79	.40		.05	2.21	1.00	4.87
Number of moves before adoptive placement	1.03	.50	**4.28**	**.04**	2.79	1.06	7.40
Age since order			**6.16**	**.10**			
Total time between entry to care and adoptive placement			**1.27**	**.26**			

[#] Other variables, which were significant in the univariate analyses were not included due to multicollinearity.
* Reference category.
** Hazard ratio represents the incremental increase in risk of adoption disruption in one category, relative to the reference category.
[†] The categories do not overlap.

Children in Wales who were older than four years of age at the time of being placed with adoptive parents were around three times more likely to leave their adoptive home after the legal order, compared with their contemporaries who were placed when they were younger than 4 years. The risk of disruption also increased two-fold when the legal order was made more than a year after the child was placed for adoption. Furthermore, each move a child had in care before being placed for adoption, increased the likelihood of an adoption disruption by nearly threefold.

5. Discussion

The aim of this paper was to present national rates and the risk factors for post-order adoption disruption in England and Wales. Having access to more than a decade of national data and the very high response rates to the national adoption manager surveys gives validity and greater reliability to the findings. A further strength of the analyses was the use of survival analyses methods, a rarely used statistical method in UK social work research. More commonly used statistical methods in UK social work research such as regression or ANOVA are able to explore differences between groups and 'whether' an outcome of interest has occurred (disruption/no disruption) or 'when' it is most likely to

occur (time to disruption), they are not able to answer the 'whether' and 'when' questions simultaneously (Singer and Willet, 2003). As social work researchers, we are most often interested in whether an event occurred *as well as* when it is most likely to occur. Here, survival analyses methods were used to establish whether and when adopted children were most likely to experience an adoption disruption and explore what child and family characteristics predicted post-order adoption disruptions. Utilisation of survival analyses provided information not only on the national levels of post-order adoption disruption rates, but also added new knowledge on the risky periods and the characteristics of children most at risk of disruption.

The Kaplan-Meier survival analyses results indicated that the incidence of post-order adoption disruption was low. It could be argued that disruption rates might be an under-estimation due to some adoption managers being unaware of all disruptions. However, the very high response rate to the adoption managers' survey, disruption rates being similar across both England and Wales and previous research showing similar post-order disruption rates in England (3.7%) (Randall, 2013) and in the USA (3%) (McDonald *et al.*, 2001; Festinger, 2002) increase confidence in the estimates .

The research evidence is consistent on factors that are associated with disruptions. These include the child's age at placement; a history of previous breakdowns; maltreatment; continuing negative influence of the birth parents; and children's behaviour difficulties (Rushton, 2003; Evan B Donaldson Adoption Institute, 2004; Coakley and Berrick, 2008; Faulkner *et al.*, 2016; White, 2016). It should be noted that several of these variables, which have been shown to be linked with adoption disruption could not be included in the Cox proportional hazards models due to the data not being collected at a national level in England and Wales (e.g. emotional behavioural difficulties of child, presence of birth or other children in the adoptive family home (Rushton, 2004; Coakley and Berrick, 2008). Data were also not available on agency variables such as the quality of the matching between the adopters and the child (McGinnis *et al.*, 2009; Dance *et al.*, 2010; Quinton, 2012) ; whether adopters were provided with adequate and accurate information about the child's past and whether the adopters received support, all of which have been linked with stability of adoptions (Barth and Miller, 2000; Rycus *et al.*, 2006).

However, results from the Cox regressions provided new factors associated with adoption disruption: a) being a teenager and b) when there was a time lag of more than a year between placement and the adoption order. Both factors need greater attention in social work practice. Administrative data does not provide answers to why there was delay between the placement of the child and the legalisation, but it is possible that this delay reflects parents' uncertainties about their relationship with the child.

Social workers need to be aware that delays between placement and order might be a sign that relationships are in difficulty and that families who delay applying for the Adoption Order are likely to need more intervention.

The child being a teenager was the greatest risk factor. Previous studies of maltreated children who were adopted indicate that about a third are described as troubled and unhappy during early adolescence (Rushton, 2004; Selwyn *et al.*, 2006) and that more stable adoptions result when appropriate and sufficient adoption support is provided to the families (Smith, 2014). As most children are younger than four years at the time of adoption in the UK, the adolescent years are mostly ignored in the development of adoption support services, with most of the effort going into supporting adoptive placements in the first few years. Therefore, considering the group of children who experienced disruptions in this study, it is likely that the families or the teens had few services available to them. However, this lack of services is beginning to change with the introduction of the government funded Adoption Support Fund. The fund, which has made available since 2015, enables adoptive parents to access therapeutic services for their child up to and including the age of 21 (or 25 with a Statement of Special Educational Needs or Education Health & Care Plan) (http://www.adoptionsupportfund.co.uk/). In its first year, of the 3,765 children helped by the fund, 42% were teenagers, which indicates that the services are becoming more responsive to the needs of adopted teenagers. Although a recent evaluation shows that access to the adoption support fund has been positively received by adoptive families, evidence from parents suggest that most families still reach a crisis point before seeking help and support (King *et al.*, 2017).

Another significant predictor of post-order disruption was children's age at placement for adoption. The analyses indicated that children would have a better chance of adoption stability if they had been placed with their adopters before four years of age. Although the children who were older than 4 years at placement were not further subdivided in the Cox regression due to small numbers of older (11+ years) children being placed (n=221), further exploration of the older group revealed that the risk of disruption increases between 4 and 11 years of age and then decreased between 11 and 16 years of age. This latter group had a similar level of disruptions as those who were placed when they were 0-4 years. This maybe because older children might have been more involved in the adoption decision making process, whereas it is unlikely that the younger children would have been included in the decision-making process. For children who are unable to return home, it is important that the permanence decisions are made quickly. It is also important to ensure that children's right to be heard is respected. Speedy decision making would also minimise multiple placement in care, which was

another strong predictor of adoption disruptions. The 26-week limit on care proceedings introduced in April 2014 and the ongoing adoption reforms that have encouraged speedy decision making on permanence for children in care may be having an impact. The latest statistics show that the percentage of children who were younger than 4 years at adoption has been increasing steadily from 73% in 2011 to 79 % in 2016 (Department for Education, 2016).

6. Conclusion

The results indicate that adoptions are successful for most children. The majority of the adoptees considered in the two retrospective longitudinal studies of adoptees in England and Wales did not experience an adoption disruption. The results of the Cox proportional hazards models indicate that there are areas that could be improved such as: avoidance of delay and facilitation of early permanence decisions; acknowledgement of the needs of families with adoptive teens and; ensuring that adoptive placements are monitored for delay in legalisation, which could be indicative of parents' underlying concerns about the adoption and a need for more intervention and support.

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